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NEWS IN BRIEF

Univac ousts ICL on buses

UNIVAC has won £3.6 million worth of business at the expense of ICL from NBC Computer Services, the organisation that handles DP for the State-owned National Bus Company. NBC is replacing seven ICL 1900 machines with Univac kit that includes three 1100/60 mainframes to be installed at NBC centres at Preston, Birmingham and Reigate, Surrey.

NCR expands

AN EXPANSION programme costing \$155 million is planned by NCR over the next four years to increase its capacity in the US for developing and manufacturing semiconductor components.

£7.5 million plans

DIGITAL Equipment is considering investing \$30 million (£7.5 million) to establish a microcomputer manufacturing plant in Singapore.

Oracle potential

THE commercial potential for Oracle, the Independent Broadcasting Authority's teletext service, is to be investigated by AVS Intext, the London-based videotext consultants and information providers.

Hearing delayed

APPLE Computer's application for an injunction to restrain ITT Consumer Products (UK) from allegedly infringing its copyright has been delayed until after October 1.

Expert system to help with North Sea oil

ARTIFICIAL Intelligence is to be used to smooth the operation of North Sea oil rigs, under a development project at Edinburgh University sponsored by BP.

Staff at Edinburgh's Machine Intelligence Research Unit are developing a system — based on a Digital Equipment PDP 11/34 and written in Pascal — which

will help oil engineers diagnose the causes of automatic shutdowns on oil platforms, saving large sums of money.

An expert system called AL/X is being devised, based on the ideas in MYCIN, which gives medical diagnoses, and PROSPECTOR, which assists with searching for minerals.

Workers, from Edinburgh

have been interviewing BP engineers and compiling a "knowledge base" about the operation of oil platforms which is expected to consist eventually of several hundred rules and should be working by 1981.

Mishaps on a rig can trigger an automatic shutdown in a number of different ways, and when this happens staff have an

immediate problem in trying to work out what went wrong and how production can be started up again safely. Even short delays can cost millions of pounds in lost output.

When in operation, a microcomputer on the rig will ask staff a series of questions about the current state of the equipment, and from the answers and the rules it has been given previously will work out a probable diagnosis of the fault.

The operator can if he wishes divert the course of the computer's questioning or ask it to display the chain of reasoning that has led it to reach a particular conclusion.

Stop dithering over PAYE—Callaghan

THE failure by the Cabinet last week to decide on whether the huge Inland Revenue PAYE contract should go to open tender, could lead to independent consultants being called in to advise the relevant ministers on the decision.

A spokesman for the Central Computer and telecommunications Agency said that no decision had been made yet on bringing in a consultancy while a spokeswoman for the Prime Minister said that she had "no idea" when the Cabinet would meet next to discuss the matter.

The PAYE controversy has now reached the level of direct exchanges between the Prime Minister and Opposition leader James Callaghan, on the floor of the Commons.

Last Thursday after Wednesday's inconclusive Cabinet meeting, Callaghan told the Premier in the House that the government should "stop dithering" about the decision. She retorted: "You will not succeed in hustling me. This matter is still being considered. There are many computer firms here. We have to get the right computer for the job."

Meanwhile, IBM has denied reports that it is offering to site a manufacturing plant in the UK if it wins the PAYE contract (CW, July 10) adding that it is not seeking a location in the EEC for a general business group factory.

On reports that IBM might be

prepared to adopt a loss leader approach to the PAYE contract cutting prices to win the order IBM stated: "It is not and never has been our practice to engage in loss leading."

Honeywell, which has been relatively quiet until now

compared with some of the other contenders in the PAYE contract arena, made its mark last week in the form of letters to The Times and Financial Times from the chairman of Honeywell UK, Ralph Price, making the case for open tendering.

Users can wait up to two years for leased lines

DELAYS of up to two years on the supply of leased lines and bad communications with customers were two of the criticisms accepted by British Telecom when a team led by marketing director Gordon Pocock met a delegation from the National Computing Centre, led by director David Fairbairn, in March.

British Telecom offered explanations for its shortcomings and discussed its plans to overcome them. Leased lines had been delayed first by financial constraints during the 1975 recession, then by excess demand when call charges had been put up without matching increases on leased line charges, and finally by industrial action.

Only the Modem 12 was acknowledged to be subject to delay and this was to be cleared by September. It transmits at 1,200 and 2,400 bps. New modems providing duplex connections at

1,200 bps on two wires and 9,600 bps transmission with multiple facilities would be available before the end of the year. Modem supply would generally improve because of expected changes to the monopoly.

CAFS, IDMS trial marriage

From front page problems look trivial; further work should reduce their impact.

CAFS tends to be regarded as a system designed for complete database searches for every query. This of course would be absurdly inefficient, and in fact the approach is to strike the right balance between the number of separate CAFS files established and the time it takes to scan.

The CAFS inquiry language has been written with a view to unqualified personnel making

their own inquiries, and several enhancements are planned in the next release of the software. Among these will be facilities for online updating of CAFS files, and an on-demand report generator.

Details from Industrial Seminars, Sevenoaks, Tel: 0732 89702.

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EEG bid to harmonise data nets
PROPOSALS for harmonisation of planned national data networks, the creation of an EEC-wide purchasing policy for PTTs, and support for the European microelectronics industry, previewed last week (CW, July 17) have been made by the EEC Commission. It urges the Council of Ministers to accept and begin implementation of all three proposals by the end of the year.

Euromice and men
THE finale of the European Micro Mouse Maze competition will be one of the star events at Euromicro '80, a conference and exhibition to be held at Imperial College London, from September 16 to 18.

Robot lead
THE UK could jump to a world-leading position in the development of second generation robots from its present backward state if the SRC's £2.5 million initiative is a success. Robots with senses of vision and touch and other greatly enhanced capabilities are intended to come from the partnership programme which has now started moving. See page 3.

Ops' dispute over
THE dispute involving 80 operators and programmers at the West Midlands Health Authority ended when they agreed to process April 1 pay rises for some 8,000 midland doctors and dentists. The computer staffs' change of mind came in time to prevent the doctors taking legal action against the WHA over their £34 million in back pay.

\$55m takeover offer
APPLIED Digital Data Systems, the VDU and small systems builder, is the subject of a takeover offer worth more than \$55 million from Mtel, the Canadian telecommunications manufacturer (CW, June 12). With a turnover this year predicted to be up to \$115 million, Mtel is about twice the size of APDS.

Growing family
DATA GENERAL has extended its Commercial Systems family with machines at the top and bottom ends, the CS/10 and CS/70. The CS/70 costs £7,140 and the CS/10 £1,740. While prices of the CS/70 range from £23,700 to £80,000, the new machines run the latest version of Cobol that is the feature of the CS family.

ASTMS loses fight
THE Court of Appeal has upheld British Telecom's fight to refuse to recognise ASTMS as representing 1,000 telecommunication telegraphists who voted to merge their union with ASTMS last year (CW, July 12).

President quits
INTEL's future now looks even more in doubt following the resignation of Thomas Tan, who took over as president of the company when it ran into desperate financial trouble last year. Tan has left without completing an agreement with creditors on the restructuring of the company's \$1.6 billion debt.

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Briefing
STC stake in Immos?
CONFUSION reigned over the future of Immos as Computer Weekly went to press, with the Department of Industry confirming and STC denying that the US multinational was interested in taking a stake in Immos. STC is part of ITT, which already has a semiconductor plant in Footscray.

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ICL plans to shed 600 workers at two plants
ICL is getting rid of more than a quarter of the shop floor and white collar workers at its factories at Winsford, Cheshire, and Bradwell Wood, Staffs. The two plants build the medium range 2950, 2956 and 2980 processors and the current payroll numbers are 1790 at Winsford and 380 at Bradwell Wood.

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IBM to support MVS on 4341
IN a surprise announcement IBM has said that the new release of MVS, MVS System Product (Software File, July 24), will be supported on the 4341. US observers say that the company is preparing a further 3033 model for launch in the autumn, and that System 38 users are being offered early delivery.

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New editor for CW
SIMON TIMM takes over as editor of Computer Weekly this week, bringing with him broad experience of the application of computer techniques in the shipping world. He was previously editor of Marine Week following a career in the Merchant Navy as navigating officer on a wide variety of passenger and cargo ships.
Timm, 30, was educated at High Street Grammar School in Sheffield and at the University of Southampton, where he graduated as a B.Sc. in Nautical Studies and completed an M.Phil. in Maritime Law.

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Combined results for the first half of the year reflect a continuing growth in all areas
says Atlantic's Managing Director, Mr John Foulston
Interim Results at a glance
1st January - 30th June, 1980 (unaudited)

	£000
Turnover	7,607
Profit before and after tax	473
Assets at 30th June, 1980	
Net Current Assets	3,141
Net Assets	3,348

"We have signed contracts with 18 new users during the first half of 1980 and a number of our existing customers have also completed upgrade plans within their previous Flexisave agreements. We consider this further proof of IBM computer users' acceptance of flexible leasing through Atlantic."

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Atlantic House, Red Lion Court, London EC4.
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COMPUTERVIEW

THE reaction from trades union leaders and the
Opposition in Parliament to the government's proposals
to relax the Post Office monopoly were predictably
depressing and defeatist. The country will be flooded by
a stream of cheap Japanese imports, went the chorus,
and shorn of their cosy relationship with the Post Office,
GEC and Plessey will be swept away on the tide.

In fact, the proposals include adequate safeguards to
prevent this happening, and there are a few signs that
the government is beginning to attach a higher priority
to buying British, or at least in Britain, than it originally
envisaged.

Shoring unemployment figures have a salutary impact
on even the most dogmatic of administrations.

What is so far missing in the government's strategy is
any clear commitment to putting British industry first.
Industry Minister Sir Keith Joseph has consistently said
that the most appropriate way to foster new technology
is by the government issuing development contracts to
UK companies for the things that it will shortly need in
its own operations — and Ukito, the new pressure group
for the British owned computer industry, plans to
attempt to turn these words into action.

What Ukito would like is for the government to put
together a five-year programme outlining its anticipated
information processing requirements. Having done so, it
should sit round the table with Ukito and identify which
of the requirements were not met by existing products
from one or other Ukito supplier.

National defeatism

Once identified, these should form the basis of development
contracts for UK companies, funded at least in
part by the government.

In Ukito's view, if such an approach were adopted, the
company or group of companies which had received the
development contract would be on the inside track for
the eventual contract even if it were put out to open
tender.

This seems an eminently sensible approach, and one in
line with Sir Keith's stated intention for industry
support.

However, the government's lack of interest in (or is it
awareness and understanding of?) unique British products
like ICL's CAFS, the content addressable bit store, is
incomprehensible to our competitors in other countries.
If CAFS were a CII-Honeywell Bull product, the
French government would by now have said "mon dieu,
you don't have a VME/B version yet? But all our major

departments are going over to VME/B very shortly,
we want a CAFS system in every department within
months. How much money do you need to have it by then?"

Instead, with not unlimited resources and no guarantee
that CAFS will be as big a commercial success as
mainstream products already are, ICL has to put a
priority on CAFS than is necessary to guarantee that
technological lead represented by CAFS has not
been missed opportunity — and the first set only went into
Downing Street earlier this month. Why are there
banks of coin-operated Prestel terminals at Heathrow
for foreigners entering the country can see and use a
new British conception — which incidentally is a
more attractive system for finding and booking seats
choice of hotel than the Freefone systems that operate
at major airports?

Ideas — brilliant ideas — are two a penny in this
country. The ever-present factor which prevents their
successful exploitation is a chronic national inferiority
complex. Instead of talking flippantly and dismissively
about the implausible of people who want to use a
"weird new-fangled device" to their telephones, the
Opposition industry spokesman did in the Commons
week, industry and users alike should be cheering
relaxation of the Post Office monopoly from the
tops.

LETTERS to the EDITOR

Doors not closed to older trainees

IN answer to George Penney on the subject of applicants over
the age of 35 being acceptable as newcomers to DP (Letters, July
3), I would like to comment on our own experiences as a
training institution.

In general, TOPS courses in programming do tend to debar
the older applicant, but we have actually had a few here who
were allowed through that hurdle and George will, I feel
sure, be pleased to learn that they have been very successful.

Particularly recall a man of 52 who wanted to retrain,
having understood that he would have to accept a trainee's
position with commensurate salary and be answerable to staff
half his age; like other "older" people he was a little slow at first

in learning new material but he was a good steady worker and
applied himself very well; eventually he was accepted as a pro-
grammer by a large commercial organisation (no, not a local
council!) and was in a position to give them 12 or more years of
steady, reliable service and provide for a measure of stability in
the department.

We have had other similar instances of success in this same direction, so clearly the doors
are not closed at all, but I must stress that we do feel obliged to
point out to all applicants quite clearly the problems that they
have to face in terms of salary, and the fact that the average age
of the industry is fairly low, thus making their employability less
certain; indeed we feel obliged to

compensate by setting higher levels of selectivity than we might otherwise apply for
younger applicants.

I do agree, however, with George Penney's feelings; too
many companies are troubled by people leaving after a two or
three years settling-in period, just as they are beginning to
make a useful contribution to the output. Older people are far
more likely to stay for longer periods on average than their
younger counterparts, so let us see a few more companies take
positive steps to recruit for stability.

B. A. S. PATTERSON,
Deputy Head
Dept of Maths & Computing
Dudley College of Technology

No cuts for BCS specialist groups

I WAS very concerned to see your report (CW, 10 July) that
an anonymous spokesman for the BCS had said that if the
proposed increases in membership fees are not approved at the
AGM "there would have to be cuts at all levels, especially in
specialist groups and publications".

Let me assure your readers, and particularly those who are
active in the 40 BCS specialist groups, that there is no question
of cutting their activities and no point in cutting their budget.
The net cost to BCS funds of the

groups last year was £1,000, a small fraction of the
total spending. With the specialist groups only about 200 meetings
contributed to many other activities.

Far from making any contribution to the continued vitality
of the BCS that the specialist groups have made and become more
vital.

ALAN BUTLER
Vice President
BCS, London

Contractor's contributions

I HAVE been a contract programmer for over seven years,
and cannot allow the Page Six article (CW, July 17) to go without
comment.

You say "contractors are virtually self-employed and consequently do not pay national insurance". This is completely
wrong. Everyone who earns above a certain minimum
pays national insurance of one sort or another.

Nowadays most contractors are not self-employed, since it is
almost impossible to convince the tax man that if you work for
long periods on one contract you

aren't in the position of employee, and if you work
through an agent he is required by law to treat you as one.

The only way to avoid this, is to start your own limited company,
in which case you employ yourself, and pay both the employer's
and employee's contributions yourself.

It is only those people who don't work through agents, and
who can fool the tax man, and who therefore pay Class 2 and 4
contributions, who are not entitled to unemployment pay, and
they in any case, like all capable contractors, should insure
themselves against loss of earnings through sickness, through
some private scheme.

The only other comments I should like to make about the article, in case permanent staff
are thinking of "going freelance", are that you are much
more likely to end up on a stock control system for a paint
manufacturer in Boreham than you are to be working in Rome,
and the only way to find out about contracting is not to read
articles, but to do it!

JAMES M. LAWTON
Stockport

What happened at the IDPM?

I AM a member of many years standing of the Central London
branch of the Institute of Data Processing Management, and I
have just left our annual general meeting without any full comprehension of the proceedings.

This year's affair was held in a modern, well-equipped
auditorium with both air conditioning and public address, but
unfortunately the former was on and the latter was switched off.

I'm sure that the council made every effort to provide the members with an adequate order
book, but the confusion was subject to last-minute cancellations
during the proceedings, which were unusual to say the least,
because, in my opinion, the combination of inferior drafting and
inadequate speakers and

general confusion resulted in confused voting, and certainly
not the forum for superior debate we have come to expect
from the Institute. Can I only hope that your publication will enable me and all the other members to find
out what really happened.

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Industry pleased, union 'disgusted' at easing of telecomms monopoly

"ABSOLUTE disgust" was how
AIF Hibbert of the Society of
Civil and Public Servants de-
scribed the union's reaction to
the government's announce-
ment on the relaxation of the
telecommunications monopoly.
But the industry gave a general
welcome to the government's
proposals.

"The public might see this as a
mild attack on a monopoly, but
it is just the first shot in the
overall dismantling of the Post
Office and the eventual extent of
it will not be in the public inter-
est," Hibbert said.

"We are afraid of a lot of
cowboy private companies set-
ting up to provide limited profit-
able services, making a mess and
clearing off when they have
made their money."

"The Post Office was warned
that it could lose its monopoly
two years ago. Services have
improved out of all recognition
since then, but that is not good
enough for the government."

The reaction from the senior
engineers' union, the Society of
Post Office Executives, was
given by its general secretary
Kenneth Glynn: "We are not
unduly worried about fair com-
petition," he said, "but it bothers
us that British Telecom is told it
can compete while the govern-
ment controls its cash. It cannot
go outside its borrowing limits

and it cannot use revenue from
other services to fund the
growth of new services. Other
companies can use some ser-
vices as loss-leaders, but British
Telecom cannot."

The British Standards Institution
was one body mentioned by
Industry Secretary Sir Keith
Joseph as a prospective
approving authority. A spokes-
man said it had not yet talked to
the Department of Industry. The
issue was important to the In-
stitution, he said, but it would
mean an enormous expansion in
its work.

Frank Taylor, consultant and
member of BSI standardisation
committees, welcomed the pro-
posals as a half-way house but
wanted EEC involvement in the
approval process.

John McNulty, managing
director of modern manufac-
turer Modular Technology, said
he had heard the proposed leg-
islation referred to as a pirate's
charter, to which his reply was
"yo-ho-ho". But he did not think
results would be immediate and
there were many unanswered
questions about approval.

The electricians union EETPU
welcomed the proposal to open
up supply of PABXs and thought
it imperative for the UK to be in
the forefront of the development
of new telecommunications. The
government should emulate
moves like the French govern-

ment's sponsorship of the elec-
tronic telephone directory.

Peter Jones, managing direc-
tor of bureau Tymshare UK, was
not clear whether the changes in
the monopoly would lead to
firms like his being permitted to
act as common carriers in com-
petition with PSS. If they were,
the business opportunities
would be "quite staggering".
Tymshare does a lot of business
in the US allowing multinational
corporations to attach their
computers to the Tymnet net-
work to handle intra-company
communications.

It also lets terminal users
access databases such as Lock-
heed Dialog. It is not allowed to
do this in the UK and it is even
less likely that it would be
allowed to in the future. How-
ever, Jones feels his technology
is superior to that used in PSS
and IPSS and describes the pros-
pect of being able to compete as
"mouth-watering".



First projects in the SRC's £2.5 million boost to robotics in UK

PROJECTS on developing an
automated industrial truck, on
sensor-guided automatic assembly
and on software simulation of
robots are the first to be an-
nounced under the Science
Research Council's £2.5 million
scheme to promote UK robotics
(CW, November 16, 1979). Part-
nerships between universities
and industry are intended to
"leapfrog" this country from its
present backward position into
the second generation of indus-
trial robotics.

At least £500,000 a year for
five years will be devoted by the
SRC to the robotics programme.
Another 25% or so of the cost of
each project will be contributed
by the industrial firms involved to
show they have a substantial and
serious commitment to the work,
said Peter Davy, the SRC's co-
ordinator for the programme.

These sums were not large but
they would make a major con-
tribution to changing skills and
attitudes, and bridging the gap
between information engineers
and production engineers, he
said.

The automated truck project
involves Warwick University and
Lansing Bagnall, the makers of
fork lift trucks. The firm thus aims
to become a robot manufacturer.
Hull University and GEC Marconi
Electronics are co-operating on
assembly, so this involves a user
rather than a manufacturer of
robots. (Other GEC companies
are working on robot manufac-
ture.)

Nottingham University and the
Production Engineering Research
Association are working on the
software simulation of robots in
the workplace. Other projects
still under discussion involve
Edinburgh and the GEC Hirst
Research Centre on quality image
processing using the Clip array
processor and Oxford and British
Leyland on robot welding of
sheet steel. Over £425,000 has
been committed so far.

The essential features of
second generation robots would
be senses of touch and vision,
Davy said. The ability to anti-
cipate jams, to feel burrs in metal,
to move heavy weights quickly
and accurately, and to adapt to

many different, small, batches is
crucial, he asserted, and 80% of
the problem in these is software.
Improvement in processing
speed of two or three orders of
magnitude is needed, he said, and
the techniques of Artificial In-
telligence could well be used.

The SRC programme is
separate from the Department of
Industry's funding work in this
area, but the controlling teams are
talking to each other and co-
ordinating their work.

Davy is convinced that,
regardless of the economic
climate, this is not a bad time to
step up research into automated
production. The investment re-
quired from companies is relatively
small and, even by the most
optimistic estimates, there will
only be 20,000 robots in the UK
by 1990, displacing 40,000
people, half of whom would be
retrained for robot construction
and maintenance.

University groups or firms
wishing to take part in the pro-
gramme are invited to contact
Davy at Rutherford
Laboratories.

Go-ahead for West Midlands schools project

A MAJOR project in schools
computer education, part of the
government's £9 million pro-
gramme announced in March
(CW, March 15) is to go ahead in
the Birmingham area in Sep-
tember, although the director
for the overall programme is
unlikely to be appointed until
later in the autumn. Eleven local
authorities in the West Midlands
have had their proposal for a
co-ordinated project accepted,
and have been given £250,000 by
the Department of Education
and Science to train teachers at
Birmingham University.

Members of the central pro-
gramme's advisory committee
have now been appointed. They
are John Coll from Oundle
School, Derek Esterson of the

Inner London Education
Authority, David Fairbairn,
director of the NCC, Mr A. Cle-
ments, of King Edward
Five-way's School, Birmingham,
and Mrs R. Fraser of the College
of St Mark and St John,
Plymouth.

The West Midlands Pro-
gramme has two parts, one for
development of software and
training methods, and the other
for teacher training. Until the
programme director is
appointed only the teacher
training can go ahead. Under
this, 15 teachers from the
separate authorities will spend a
year at Birmingham University
being trained as "dissemination
agents", to go out and teach
other teachers.

Union threatens ban on new technology agreements

BAN on all new technology
agreements between companies
and the engineering industry and
themselves, and further action
to follow, has been threatened
by white collar union APEX.

The follows the Engineering
Employers Federation's rejection
of a suit by unions for a
shorter working week for staff
of the engineering industry.
The unions based their claim
on the impact of new techno-
logy trends in other industries
in Britain and similar working
conditions in Europe.

APEX, with other unions
representing staff in the en-
gineering industry, want a 35-
hour week for white collar staff
from November 1981.

With that in mind, they asked
the Federation to give a two-
hour reduction to white collar
staff now on a 40-hour week,
and a half-hour reduction to
those on a 38 to 37½-hour week.

The Federation has offered a
one-hour reduction for staff on a
40-hour week and the unions
consider this unacceptable.

Racal-Milgo buys interface firm

RACAL-MILGO's acquisition of
Datacom Systems Inc. of
California, July 17, takes the
company into the vital field of
data conversion, enabling
mainframe computers and
communications equipment
to communicate over
the primary area of
data processing products
the US is in the

word processing field, one in
which Racal's data communica-
tions group is beginning to take
an interest in the UK. Racal-
Milgo is paying an initial
\$600,000 for the company and
will make further payments on
the basis of future performance.
Teletype Network will be-
come a subsidiary of Racal-
Milgo Inc. of Miami.

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SILENT 700 Portable Terminal
From £105 or £56 per month

Range of microprocessor controlled lightweight terminals featuring a built-in thermal printing technology giving silent printing at 30 cps. Options include built-in microprocessor and a non-volatile magnetic bubble memory capable of storing 50K to 200K characters. This feature allows full editing of data prior to transmission.

MODA 730 Low Cost Miniprinter
£555 or £29 per month

Highly efficient low cost 100 cps printer. Major features include three-in-one paper handling (sheet, fanfold or roll paper), 80 column printing of upper and lower case characters, and microprocessor logic for high reliability. The 730 communicates via an integral RS232C interface at speeds up to 9600 baud using busy line signalling.

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Downtime

by Chad

That sinking feeling

COMPUTERS to blame again. It has been suggested that it was a computer error that led to the tanker Energy Concentration being unloaded wrongly and sinking while peacefully berthed in Rotterdam harbour. They emptied the double tanks before the fore and aft ones, the middle of the ship bent up, and snap! Gung plug plug.

There is something magnificent about advanced technology that can produce something that will just destroy itself spontaneously with so little performance. One imagines that for a ship to be lost it has to be pounding round Cape Horn in a Force 12 with rocks on one side and icebergs on the other. To sink to the bottom in the safety of a harbour is ignominy indeed.

I am so impressed by the relaxed attitude of those in authority towards formal qualifications for the blinkers to whom they entrust these multi-million-pound contraptions. You and I, brought up on our island seafaring heritage, imagine that to achieve such responsibility, a sailor has to spend years before the mast on a gruelling apprenticeship, absorbing all kinds of arcane skills and lore. Other countries are more enlightened, of course; what are the beaches of Europe compared to the need for seamen and shipowners to do their own thing?



Conflict of interest

THERE are so many brains in the computer industry that it is never addressed the same issues. Their arguments just miss each other — that it is refreshing when you hear people actually contradict each other on a public platform. This happened at the Parliamentary Computer debate on preferential public purchasing.

Alan Benjamin of ICL said that overseas customers would never have confidence in the firm if the British government did not buy its kit. Then Tony Cleaver of IBM got up and said that preferential treatment could erode credibility abroad. Clear days, folks!

How long is a PCB?

ICL held a sale opening for its new multi-layer printed circuit board factory in Plymouth Grove, Manchester, the other day. After the tour and the technical explanations were given, the heavyweights of the industry were invited to a heavy weight, a tin of newspapers was handed to each. "Just how many microprocessors could you get on one of these boards?"

GILB'S MYTHODOLOGY

PHISTER has followed up his original handbook, which contains the most complete collection of facts and figures about the computer industry ever published with a supplement. Published earlier this year, it covers, in some cases, up to 1979.

Anybody who wants solid facts about the techniques, the suppliers, the methods and the money in our industry should have a copy by his or her desk or at least in the company library. The most impressive thing about Phister's book is that it is Phister's book alone. No institute of higher learning, no professor, no large company or even small consultancy has managed to give our industry so well-organised a set of facts about ourselves. Shame on us! On the other hand, if a single person working from his home office can produce such useful reference works, then perhaps when we get around to writing the other engineering handbooks we need to write, only a few more Phisters will be required.

In earlier columns I have spoken about the need for a systematic organisation of our knowledge, for system engineers and for management. We are too big and complicated, and we are too dynamic to allow ourselves to continue to learn by hard experience or by spreading of mythologies.

Before I dive into Phister's newest supplement and give you a sample and some reflections, let me list the subjects he does not cover in any thorough manner, but which I believe would be a worthy contribution to our literature. Perhaps such a list can inspire some budding writer and knowhow organiser — and he or she does not have to be American!

- A handbook on maintainability techniques and their costs and effects.
- A handbook on testing techniques and costs and effects.
- A handbook on documentation.

Comprehensive guide to industry facts

- A handbook on all the various system design methods and their measurable attributes (as opposed to a description of how they are carried out).
- A handbook on input code technology: costs and side-effects.

My list could be much longer than this, but the challenge is passed on to the reader, especially those in academic positions who are supposed to take care of our knowhow accumulation and elucidation, but seem to fail miserably in the computer sciences, with only a few exceptions.

Now back to Phister. In a survey of increases in system size from 1973 to 1978 the average price for IBM rental paid went up by between 11.6% (System 3/10) to about 76% (for 370/158 and 168). Univac 1110 had the largest increase (but there are probably few of these in the survey) of 83.5%. The IBM System 3/10 had the lowest increase of any model or supplier. Maybe this says something about foot-in-the-door marketing policies. Maybe it just represents growth in volume of applications.

One table tells us that IBM DOS 360 had 8.9 million statements while OS 360 had only 3.46 million statements! That was a surprise for me. I would have thought DOS was smaller. Not only that, but 86% of DOS modules were modified per Release, while only 14% of OS modules were modified. Another table tells us that

packaged application software industry growth rate (1976-78) was 38.1% per year. Nice industry to be in. On a chart nearby standard packages sales is taking off like a rocket (from 1972-78) while "custom software" shows little growth by comparison.

We don't hear much about small systems like IBM System 3 but one table shows that there were about 22,000 in use at peak (1975-77), compared to the IBM 370 Series, which had about half that number in service at the same time. IBM worldwide sales and service costs are at about the 38% level for the past 20 years, and their earnings after tax (can you guess) between 10% (1960s) and 14% (recently). Phister's explanation for the increase in earnings at IBM is, surprisingly, "IBM's wealth". The net interest income from their wealth increased more than enough to compensate for a drop in operating income.

In another table we see that according to an IBM survey, upper management spends 24.5% of their time at meetings, 8.8% writing, 13.8% telephoning, 13.1% travelling and 0.1% only "using equipment". Somehow I don't see that computer terminal on the top boss's desk yet. Unless it is for teleconferencing and text handling.

Montgomery Phister, Jun, Data Processing Technology and Economics. Both volumes combined: Digital Press, 12A Esquire Rd, N. Billerica, MA, USA 01862, \$24.95 per, \$28.95 hardbound, 1978-79. Supplement alone: \$8.00 from S. M. Publ. Box 3543, Santa Monica CA, USA 90403.



Professor Wilkes, pictured in front of part of the Cambridge equipment.

Who's Who in DP pay tribute to Professor Wilkes

THE names of the distinguished international guests who met at St John's College, Cambridge, to mark the retirement of Professor Maurice Wilkes after 35 years as head of the University Computer Laboratory (CW, July 24), would provide a sound basis for a DP Who's Who.

Spanning all the generations from the 1940s to the 1980s, a random selection of Wilkes' colleagues and students who assembled included Dijkstra, Barron, van Wijngaarden, Michaelson, Brooker, Wheeler, Needham, Hoare, Douglas, Yates, Woodger, Kilburn, Miller, Page, Wells, Coates... the list seemed endless.

The Vice-Chancellor of the University, Sir Peter Swinnerton-Dyer, an eminent software pioneer in the early Edsac days, presided over the evening's events with brevity and wit. He pointed to the quality and quantity of the turnout as an indication of the high esteem in which Professor Wilkes is held by all sections of the computer industry.

Among the representatives of the many professional bodies was Julian Bogod, president of the British Computer Society, who announced the establishment of the Maurice Wilkes Gold Medal to be awarded each year to the British subject whose papers published in the BCS Bulletin are adjudged the best.

The main speaker, Dr Ewan Page, Vice-Chancellor of Reading University, promised not to overdo the nostalgia, but his anecdotes of the early Edsac days (and nights!) at the Mathematical Laboratory during the early 1950s certainly succeeded in arousing many wistful memories among the older members present.

There is much talk about the redundant DPM. Perhaps one should be assigned to every micro (readers: At least then, programs would conform to DP and auditing standards.

TEN YEARS AGO...

From Computer Weekly of July 30, 1970

THE first move in a joint ICL/IBM sales drive has been computer systems to the world's largest airline, the British Overseas Airways Corporation (BOAC). BOAC will provide the software while ICL will supply the hardware. A contract worth £7.5 million is being signed by the British Overseas Airways Corporation and ICL.

Private viewdata with 7,000 frames

A PRIVATE viewdata system that is Prestel compatible, has seven ports and a 7,000 frame capacity costing £17,000 has been launched by Incoterm, a maker of terminal subsystems used by banks and airlines, which was taken over by Honeywell two years ago.

The system, called Incoterm, is based on the Incoterm SPD 20/20 terminal processor unit running the RDE database management and remote data entry software which has been in the field for three years.

It will be marketed jointly with Radio Rentals Contracts, a subsidiary of Thorn-EMI which has already in partnership with ICL developed the Thornel box to enable in-house viewdata services to be run from existing mainframes.

Thorn also makes television sets adapted for viewdata and Radio Rentals rents them at £28 a month, which is equivalent to the current rates for a colour

television plus a modem from British Telecom.

The smallest Incoterm system uses a disc drive with a 5-megabyte fixed disc and a 5-megabyte removable cartridge. Expansion up to four drives is possible, giving a capacity of 28,000 full frames, although Incoterm says frames are typically only 30% filled making the effective capacity nearer 100,000 frames.

Ports can be added up to a maximum of 35, which is estimated to serve 350 users.

Links to mainframes can be made by terminal emulations already implemented on the RDE system.

Incoterm marketing director Pat Kiely said that the use of an existing system enabled the product to be marketed at a cost that the market would bear. Developing it from scratch would have made it too expensive, which he believed was true of competitive products.

Honeywell launches four US DPS 8 models in UK

ALL four of the US models in the Honeywell DPS 8 line are now available in the UK — and the company has followed the US rather than the Continental line on the models it is offering.

The four in the UK are the DPS 8/20, field-upgradable to DPS 8/44, plus the 8/52 and 8/70, each of which requires a processor change. In France, CII-HB offers the top two models, plus an 8/48 which is field-upgradable to an 8/52.

Honeywell is touting the 8/20, which has a base price of £200,000, as a remote computer for use in Distributed Systems Environment networks. The 8/20 appears to be a little more powerful than IBM's 4331 Model Group 2 machine and is field-upgradable to an 8/44, which is 6% more powerful and claimed to match the power of the IBM 4341.

The 8/20 and 8/44 can shed some of the processing load to new peripheral processors — the MFP 8000 for up to eight tape handlers and four unit record devices, URP 8000 for up to eight unit record devices, the MTP 8000 for up to eight tapes, and the MSP 8000 and 8001 mass storage processors for discs.

First UK customer for the DPS 8/20 is ATN Network Ltd, further strengthening Honeywell's hold on IBA television

franchise holders. Thames, Yorkshire, Tyne Tees, HTV, Border and Ulster are all Honeywell users.

ATV's DPS 8/20 is replacing two DEC PDP-11s and will be used for transaction processing and a DMV database of campaign statistics, audience profiles and ratings. All DPS 8 models, which run under the new GCOS 8 operating system as well as the compatible GCOS III, will be built in Scotland.

Call for papers

A CALL for papers has been issued for the Microsystems 81 Conference, to be held at Wembley Conference Centre, London from March 11-13, 1981.

Microsystems 81 is the fourth in a series of conferences and exhibitions designed to meet the rapidly changing information needs of managers and engineers responsible for developing and using microprocessor based systems.

Synopsis should be sent by September 12, 1980, to Robert Perry, Microsystems 81, PO Box 63, Guildford, Surrey, GU2 5BH.

Microsystems 81 is sponsored by Computer Weekly, Microprocessors and Microsystems, Practical Computing and Systems International.

Software File

by Don

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Tally drops three dealers

IN order to provide what Mannesmann Tally describes as "proper engineering support" for its products and "better local customer service" the company has dropped three existing distributors of its serial printer terminals and appointed two new ones.

The three distributors dropped are Comma Computer of Brentford, Essex; Westrex of North London; and Data-Type Terminals of Cwmbran, Gwent. The two new distributors are Rohan Computing of Southampton, Warwick and Management Control Systems of Manchester.

£200,000 order

COMMUNICATIONS equipment worth over £200,000 has been ordered from Case of Rickmansworth, Herts, by Metal Box for its 40-site UK network. Included are 480/48 microprocessor-controlled modems and an Analysis II network monitoring system.

Comms box launch by Fortronic

FORTRONIC, the Scottish firm making a name for itself in the bank terminal business, has launched a microprocessor system in a box called the F500 that is being offered to big end users or systems houses as a communications processor for jobs like data encryption, data concentration and protocol conversion handling multiple terminals.

Fortronic also sees sales being made to schools and to systems houses addressing the general DP and word processing markets. The F500 is configured around the Motorola 6809, which is upwards compatible with the Motorola 6800 chip used in the Transaction Terminal System, the Fortronic built unit now being sold by ICL to its banking customers (CW, March 13). One big advantage of the 6809 over the 6800 highlighted by Fortronic is the capability to handle re-entrant code and thus support multiple terminals.

At the moment Fortronic uses the Digital Equipment LSI 11/03 processor as the controller for its

counter terminals being used on a pilot basis by Barclays Bank (CW, August 30, 1979) but any future systems will employ the F500 in place of the L11/03.

Apart from a desire to do its own thing in the controller area Fortronic, like many DEC customers, has been put off by long delivery times on much of DEC's kit.

The F500 will also be used in place of the L11/03 in any electronics funds transfer systems orders that result from the Counterspeed experiment being carried out in the Norwich area by Barclaycard in co-operation with several oil companies using Fortronic terminals (CW, June 12).

On the software side the F500 comes with an operating system that can support Fortran, Pascal and Basic, and Fortronic itself can provide software for handling IBM, ICL and Burroughs protocols. Data concentration software can be written by Fortronic itself to suit user needs and data encryption software will be based on the DES chip from Western Digital.

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<p>VC4182 DEC VT52 compatible featuring character highlighting, function keys and status line.</p>	<p>VC410 The professional terminal with split screen, editing, status line, and highlighting.</p>	<p>For clear answers to complex questions ask</p> <p>volker-craig</p> <p>Volker-Craig (U.K.) Limited Volker-Craig House, Tolpits Lane, Watford, Herts, WD1 8XL Tel: (Watford) 0823 40043 Telex: 26124, Checom G.</p>

For more information on Volker-Craig's 400 Series terminals contact your local distributor. Or phone and fax for further details.

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IBM	8100 DMS experienced Analyst/Programmers for 6 month contract on new development projects commencing August onwards.	C. LONDON
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IBM	COBOL CICS + DLT Analyst/Programmers to design and implement word processing system.	S. LONDON
IBM	MVS Systems Programmer for 6 month contract. Must speak Dutch.	HOLLAND
IBM	MVS/JES2 Systems Programmer for four month contract. Must have Sys. Dev. experience.	LONDON
IBM	1170 BASIC Analyst/Programmer with at least 2 years experience of Basic.	LONDON
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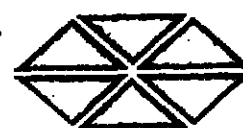
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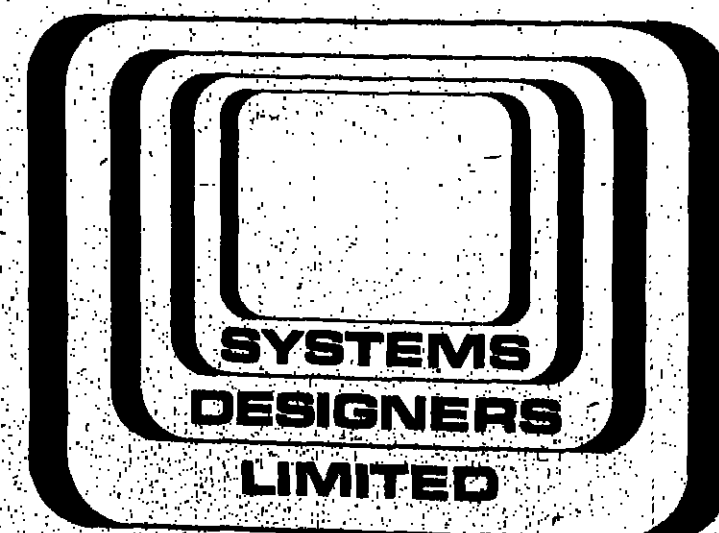
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We have two clients with current vacancies for experienced FORTRAN programmers. Both companies require at least two years' experience with an engineering or telecommunications background, one of the companies being involved in petrochemicals and the other a large software house and bureau. Both companies offer a comprehensive range of benefits and represent fine opportunities for suitably qualified applicants. REF. R4517/8

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A manufacturing company in S.W. London require a skilled and motivated person to supplement their existing team. The applicant should have three to four years' experience in a high level language such as BASIC or COBOL, and should be familiar with communication networks, DBC hardware is used and the company's range of benefits include four weeks' holiday, good insurance and pension schemes and a subsidised restaurant. REF. R4514

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Are you prepared to relocate in UK? ☐ Abroad? ☐ (tick box)

Experience

Place no. of years in box,
e.g. IBM360/370 ☐ 4

Machines:

Please specify model.
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IBM others (specify) ☐
ICL 1900/2900 ☐
ICL others (specify) ☐
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Programmers c.£300

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Contact: Margaret Stevens

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Contact: Isabel Bruce

Programmer-Micro-Systems

City c.£8,000

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Contact: Isabel Bruce

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Closing Date: 14th August, 1980.

COMPUTER DEPARTMENT
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Consultant: John Wood—0782 623685.

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A Council urgently require 4 additional programming staff to work on a major expansion phase developing a program database. The system runs under DOS/VS. Any experience of CICS, DL/I, would be especially welcomed. The system is being developed for on-line enquiry and updating facilities. Candidates should have a minimum of 12 years' COBOL programming background, and be capable of working with a minimum of management supervision.

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2. Military and Communications projects requiring a knowledge of PDP-11, DG Nova, Ferranti, GEC and Corbi 66. Alternatively, Assembly or Minit would be advantageous.
3. Programmers are required to work on pension systems for a major insurance company run on a large IBM mainframe. The applications make extensive use of database and transaction processing.

Numerous other vacancies exist throughout the U.K. Graduates are preferred.

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1. Initial designs of major command projects for the Police requiring Cobol and Algol knowledge using Burroughs hardware. A knowledge of MCP/GEMCOS/NOI/DMS-11 would be advantageous.
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THE SALES BIT

Recession—a time to sort out the staff

MOST senior executives within the computer industry must now be giving considerable thought to the effect of transient recession upon their short and medium term business prospects. I suppose it is to be expected that many will view the situation purely within the context of the phenomenal and perpetual success of the computer industry rather than relative to the performance of the total industrial and commercial scenario.

Reactions to the present economic climate remind me of a cartoon I used to have in my office. The scene depicts a sales director and a managing director, both of whom are studying sales performance graphs. Sales performance for the first six months, commencing slightly above the bottom left-hand corner, shows rapid and exponential growth. So dramatic is the sales success, that the performance-line has gone off the graph and a considerable way up the office wall. However, in the current month, the trend has been contradicted by a sales achievement of some five per cent less than the previous month showing a slightly adverse trend. The managing director is saying to the sales director: "Whatever we do, we must not panic!"

One can already witness computer companies over-reacting to current economic trends. Undoubtedly, there are going to be some fatalities within the coming months, but there is perhaps some comfort in the fact that while many industries will never fully recover from the present economic onslaught, the computer industry is invulnerable. So spare a thought for the problems of many end-users, whose survival is somewhat more in question than the typical computer supplier.

I have always believed that the medicine most needed by many computer companies is a good old recession. In a lot of situations it is the only pressure that can force a close investigation of operational efficiency and the nature of individual contribution. There is an enormous amount of dead wood in the computer industry that is perpetuated by a gross shortage of personnel. The "Warm and Walking Test" continues to keep a lot of inadequate people in employment rather than their ability to fulfil their appointed role.

Those senior citizens who can remember as far back as 1973 will recall that the situation was, in many ways, similar to the present time. I was working in the service bureau industry at the time and we lost 35 per cent of our turnover in three months, due primarily to the fact that our workload largely consisted of technical projects oriented applications. My view was, we did have to rationalise our operation, and the subsequent quality of service was all the better for it.

During that same period several computer manufacturers reacted in the most extraordinary fashion. Some put themselves into suspended animation — a kind of financial limbo — where all marketing, product development, recruitment and investment was frozen in the hope of better things to come. One company sacked its entire sales force! Dramatic stuff, and what a long time it took for them to recover credibility, particularly in the eyes of potential employees when business picked up again.

The point I want to make is that economic recession provides opportunities as well as problems. "Putting up the shutters and hoping it will go away" is not only pathetic, but also an impractical act, inviting stagnation and financial disaster.

From the sales point of view, freeing recruitment is almost as bad as sacking the sales force. As economic recession reduces the business "cake", competition increases and the need to at least maintain one's share of a reducing market is paramount. Therefore the need for truly effective salesmen increases, while, at the same time, the ability to tolerate passengers completely evaporates.

As I have stated before, a fast growing market and a shortage of first-class salesmen is a pleasant environment for the inadequate performer. Clearly, competent salesmen should not survive at any time, but they do, particularly in the computer industry.

My plea to sales management (being mindful of my own interests in sales recruitment) is that during the coming months, they avoid the negative trap of "battering down the hatch" and grasp instead the positive opportunity of using any business shortfall as a justification (if ever needed one) for ensuring they have a sales operation staffed only by contributors, even if that means releasing some of the existing team and obtaining the kind of salesmen they should have employed in the first place — and that could mean higher achievement with fewer people.

TRADER

Trader welcomes comments on his column and is happy to consider readers' problems in marketing and selling.

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